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Case Report

Ectopic adrenal tissue in the mesosalpinx of an older female: the fourth case report in the literature

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Abstract

Ectopic adrenal tissue is a rare finding often encountered incidentally during histopathological examinations. The most common site is the genitourinary tract and pelvis, and more frequently in males than females. Ectopic adrenal tissue is primarily found in neonates and is extremely rare in adults. Although it is an unexpected entity, pathologists should be aware of it because it may be confused with metastasis of clear cell renal carcinoma. To the best of our knowledge, only three cases of ectopic adrenal tissue in the mesosalpinx of the fallopian tube have been reported in the medical literature, making this case the fourth one. In our report, we discussed an ectopic adrenal tissue that was discovered incidentally in the mesosalpinx of an older female.

Keywords: ectopic adrenal, adrenocortical rest, cortex, fallopian tube, mesosalpinx

INTRODUCTION

Adrenal glands are normally situated on the kidneys and have a double embryological origin [1]. Most reports of ectopic adrenal tissue, especially in its cortex, occur during infancy and are more prevalent in male children [2, 3]. The most common site is the genitourinary tract, including the testis and pelvis [2]. Ectopic adrenal tissue (EAT) is rarely discovered and is usually an incidental finding [4, 5]. We report a very unusual finding of adrenal cortical rest in the mesosalpinx of an older female, which is even more uncommon. The lesion was discovered incidentally during a routine pathologic assessment of a fallopian tube.

CASE PRESENTATION

A 76-year-old female patient presented to the hospital complaining of abnormal vaginal bleeding. She reported that symptoms began a few days earlier. The abdominal examination was unremarkable. Routine blood tests were within normal limits. A pelvic ultrasound revealed endometrial polyps and cystic formations in the right ovary, leading to the performance of a total hysterectomy with bilateral salpingo-oophorectomy. The specimen was sent for histopathological examination. During the gross examination of the right fallopian tube, we observed multiple well-circumscribed nodules with a diameter of 0.5 cm in the mesosalpinx, exhibiting a yellowish hue (Fig. 1). On microscopic evaluation with hematoxylin and eosin staining, the nodule was 3 mm in diameter and composed of small clusters and cords of polygonal cells with distinct cellular borders. The nucleus was round and in the center of the cell (Fig. 2). To rule out metastatic clear cell renal cell carcinoma, an immunohistochemical marker was employed. The cells were positive for the calretinin marker (Fig. 3). The final diagnosis was ectopic adrenal cortical tissue. The patient had no

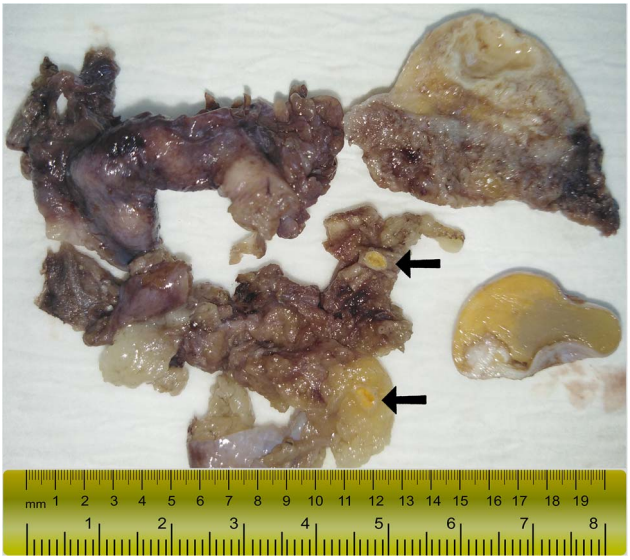

Figure 1. A gross image of the right fallopian tube and ovary. Ectopic adrenal cortical yellowish well-defined nodules in the mesosalpinx (black arrows).

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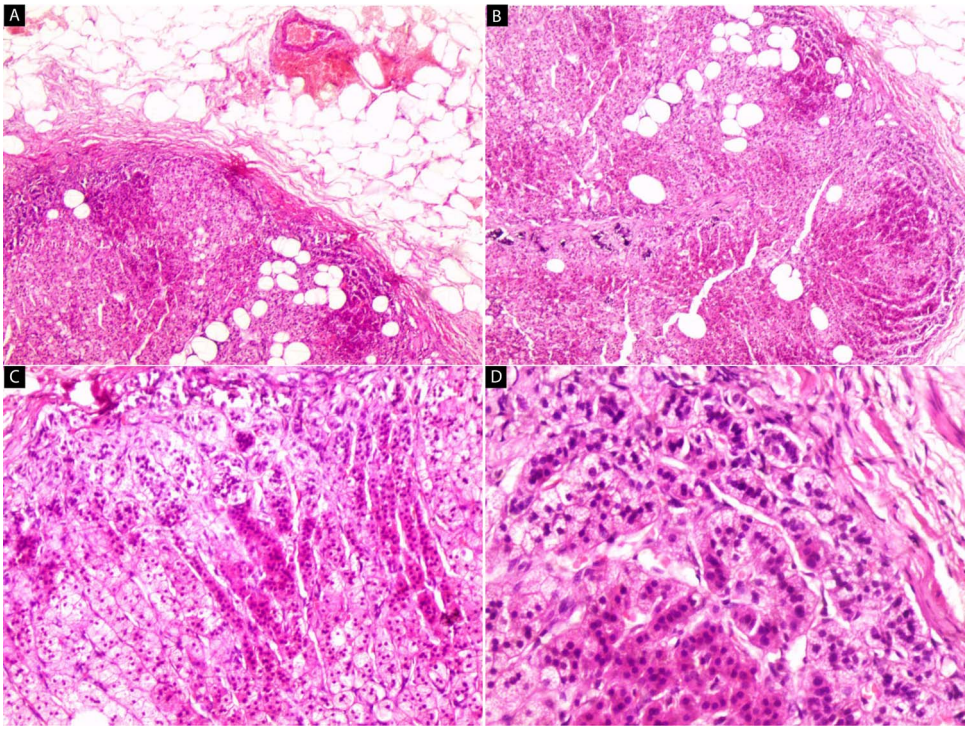

Figure 2. Hematoxylin and eosin-stain (**A–D**). Microscopic images of the ectopic adrenal cortical nodule. (**A** and **B**) The low-power magnification shows a well-defined nodule with adipose tissue around it (40×). (**C**) The nodule is composed of small clusters and cords of polygonal cells with distinct cellular borders (100×). (**D**) The nuclei are round and in the center of the cell (200×).

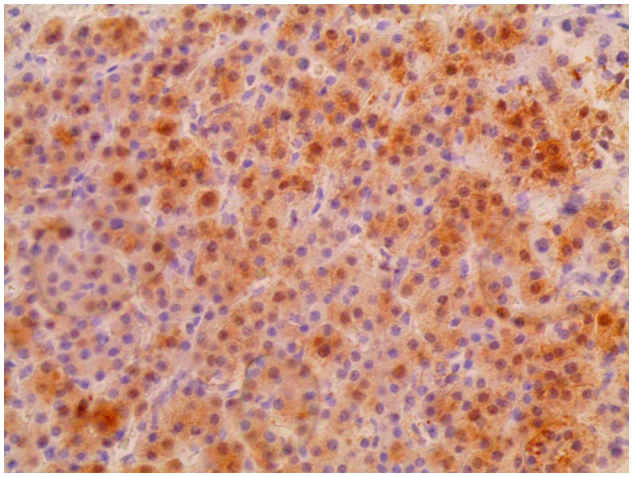

Figure 3. Immunohistochemical stain image. The adrenal cortical cells are positive for calretinin.

symptoms or signs of abnormal hormone production from the ectopic adrenal rest. The postoperative course was uneventful, and the patient was discharged on postoperative day three without any complications.

DISCUSSION

Ectopic adrenal tissue (EAT) occurs in approximately 1% of the adult population and can be identified in up to 50% of neonates, often manifesting retrograde changes in early infancy [4]. This case represents the fourth reported instance of ectopic adrenal tissue in the mesosalpinx within the medical literature [4]. EAT is more common in males than females and is most often found in the genitourinary tract [2, 4]. It can be found in various sites along the path of embryogenic migration, including the kidneys, periadrenal, and retroperitoneal fat. Additionally, it may be in proximity to pelvic organs such as the ovaries, uterus, broad ligament, spermatic cord, and testes [4, 5]. In females, EAT is exceptionally rare, with occurrences mainly along the broad ligament [4, 5]. The ectopic adrenal tissue typically comprises solely cortical cells, lacking medullary cells, owing to the distinct embryological origins of these two components [5, 6]. There are two different primordials of separate origins: the cortex is derived from the mesoderm and the medulla from chromaffin neuroectodermal cells of the neural crest [1]. During embryonic development, they merge into a single unit and small fragments of the cortex can be entrapped in the descending gonads and engulfed in the developing organs [4, 7]. The main differential diagnosis of EAT is clear cell renal carcinoma [4, 8]. Adrenal cortical cells exhibit immunoreactivity for calretinin and anti-steroidogenic factor-1 (SF-1), whereas clear cell renal carcinoma shows negativity for these markers [8]. In the majority of cases, EAT does not induce clinical symptoms, as it lacks an apparent physiological function, as observed in our case [9]. In some cases, ectopic adrenal tissues can cause physical changes by producing hormones such as hypertension, and palpitations or they may develop pathologies such as neoplastic transformation, hyperplasia, and adrenal insufficiency [4].

CONCLUSION

EAT is an extremely rare finding in the mesosalpinx of the fallopian tube of older females. EAT is typically diagnosed incidentally and generally lacks significant clinical implications. However, pathologists should be aware of it because it may be confused with metastases of clear cell renal carcinoma.

CONFLICT OF INTEREST STATEMENT

No conflict of interest.

FUNDING

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ETHICAL APPROVAL

No ethical approval was required for this publication.

CONSENT

Informed and written consent from the patient was taken prior to publication.

GUARANTOR

Moatasem Hussein Al-janabi.

REFERENCES

1. Schechter DC. Aberrant adrenal tissue. *Ann Surg* 1968;**167**:421–6.
2. Ors F, Lev-Toaff A, O'Kane P, Qazi N, Bergin D. Paraovarian adrenal rest with MRI features characteristic of an adrenal adenoma. *Br J Radiol* 2007;**80**:e205–8.
3. Alimoradi M, El-Helou E, Sabra H, Azaki R, Khairallah M, Matta N. Ectopic adrenal gland in an adult inguinal hernial sac: a case report. *Int J Surg Case Rep* 2020;**72**:66–8.
4. Hafiz B, Alturkistani F. Adrenal cortical rests in the fallopian tube: a case report and review of the literature. *Cureus* 2022;**14**:e27649.
5. Al-Janabi MH, Allan A, Salloum R. Incidental ectopic adrenal cortical tissue in the descending mesocolon in an elderly female: a first case report in the literature. *J Surg Case Rep* 2023;**2023**:rjad067.
6. Anderson JR, Ross AH. Ectopic adrenal tissue in adults. *Postgrad Med J* 1980;**56**:806–8.
7. Sahin Ç, Taylan E, Akdemir A, Zekioglu O, Seyidova P, Ergenoglu AM. Ovarian serous cystadenoma with ectopic adrenal tissue in a 65-year-old patient: a case report. *Int J Surg Case Rep* 2017;**33**:89–91.
8. Sangoi AR, Fujiwara M, West RB, Montgomery KD, Bonventre JV, Higgins JP. *et al.* Immunohistochemical distinction of primary adrenal cortical lesions from metastatic clear cell renal cell carcinoma: a study of 248 cases. *Am J Surg Pathol* 2011;**35**:678–86.
9. Tingi E, Ogah J. Ectopic adrenal rest cells of the fallopian tube: a case report and review of the literature. *J Obstet Gynaecol* 2018;**38**:578–9.